

In the drawings:

Please substitute the attached Figure 2 for the Figure 2 originally filed.

REMARKS

Claims 1- 6 stand rejected under 35 USC 103(a) as being unpatentable over (obvious from) Matsubara US Patent 3,928,021 in view of European Patent 0003665 of Nippon Kokan. Note that Matsubara is a fluidized bed process. Claim 1 has been amended to clarify that the direct reduction process of the present invention is a moving bed shaft furnace process, which is also known as a “packed bed” process. In such process lumps and/or pellets are fed into a shaft furnace to form a packed bed burden therein, which differs markedly from a fluidized bed process in which the reduction is carried out while finely divided metal oxide particulates are in a fluidized state. The European Patent merely teaches the forming of agglomerates or pellets from finely divided particulates, and the curing of such pellets, such teachings not being applicable to lump ores, which are normally used quickly after delivery, or a short time thereafter. Storing of lump ores for an extended period of time in a non-reducing atmosphere is a new concept. Clearly, therefore, claim 1 is not obvious from the Matsubara and European (Nippon Kokan) references within the meaning of 35 USC 103(a).

Claims 2 through 5 depend from claim 1, and are thus equally patentable therewith,

With respect to claim 6, a reformer changes gaseous oxidants CO₂ (carbon dioxide) and gaseous H₂O to reductants CO (carbon monoxide) and H₂ (hydrogen). A gas reformer is not

equivalent to a heavy oil gasifier. After gasification, the oil still needs to be further treated for use as a reducing agent equivalent to applicants' reductants CO (carbon monoxide) and H₂ (hydrogen).

Claim 7 stands rejected as obvious from Matsubara. Again, Matsubara is concerned with a fluidized bed process utilizing green pellets. Claim 7 claims the apparatus of the shaft furnace packed bed direct reduction process, which includes reformer means for reforming gaseous oxidants, whereas Matsubara teaches a gasifier for gasifying heavy oil, and the reduction of oxide particulates. Thus claim 7 is not obvious from the cited references within the meaning of 35 USC 103.

Claim 8 stands rejected as obvious from Matsubara and further in view of Becerra-Nova US Patent 5,445,363. Claim 8 depends from claim 7, and contains all of the limitation of claim 7 therein, thus claim 8 is not obvious from the cited references within the meaning of 35 USC 103.

New claims 9 and 10 depend from claims 1 and 8 respectively, and thus should be equally patentable therewith.

Claims 1 to 5 stand rejected under 35 USC 112 as indefinite for failing to employ the degree symbol between the temperature and the letter C. In standard engineering notation, the symbol "F" stands for "degrees Fahrenheit", and the symbol "C" stands for "degrees Celsius". Nonetheless, by this amendment, the symbols have been changed as requested.

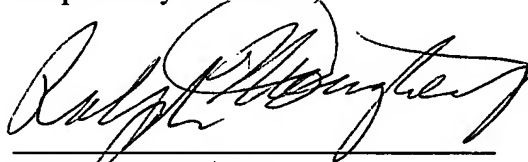
Claims 7 and 8 are provisionally rejected under the judicially created doctrine of double patenting over claims 6 and 7 of co-pending Application No. 10/789,696, filed of even date. Upon Allowance of one of the applications, Applicants will consider deleting any identical claims.

A corrected Figure 2 is required to be provided. Such corrected drawing is submitted herewith.

Since the amendment to the claims does not add more claims than previously paid for, no additional fee is required.

In view of the foregoing amendment and these remarks, this application is now believed to be in condition for allowance and such favorable action is respectfully requested on behalf of applicants.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Ralph H. Dougherty", written over a horizontal line.

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